

Notice of Allowability

Application No.

10/076,485

Examiner

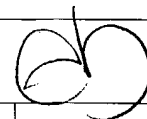
Dah-Wei D. Yuan

Applicant(s)

YABUKI ET AL.

Art Unit

1745



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 12/10/03.
2. ☒ The allowed claim(s) is/are 1-19.
3. ☒ The drawings filed on 19 February 2002 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

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TERMINAL STRUCTURE OF STORAGE BATTERY

Examiner: Yuan

S.N. 10/076,485

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January 30, 2004

Detailed Action

1. The Applicant's amendment filed on December 10, 2003 was received. The abstract and specification were amended. Claims 1,3,4,6-8,13-16,19 were amended.
2. The text of those sections of Title 35, U.S.C. code not included in this action can be found in the prior Office Action issued on September 10, 2003.

Examiner's Amendment

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.
4. Authorization for this examiner's amendment was given in a telephone interview with Mr. George N. Stevens on January 30, 2003. The application has been amended as follows:
 - In claim 5, line 1, after "according to claim" delete "3 or"
 - In claim 11, line 2, after "8" delete "through 10" and add "and 9"
 - In claim 12, line 2, after "1 through" delete "11" and add "9"
 - In claim 13, line 2, after "1 through" delete "12" and add "9"
 - In claim 14, line 2, after "1 through" delete "13" and add "9"

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In claim 19, line 2, after " 1 through" delete "17" and add "9 and claims 15 through 17"

Claim Rejections

5. The claim rejections under 35 U.S.C. 112, second paragraph, on claims 1,15 are withdrawn because they have been amended. The claim rejections under 35 U.S.C. 102(b) as anticipated by Sato on claims 1,2 are withdrawn because the independent claim 1 has been amended. The claim rejections under 35 U.S.C. 103(a) as obvious over Sato et al. on claims 12,19 on claims 12 and 19 are withdrawn because the independent claim 1 has been amended.

Reasons for Allowance

6. Claims 1-19 are allowed. The invention of independent claims 1,3 recites a terminal structure of a storage battery wherein a lower plate portion of the vertical plate portion of the plate terminal is provided with an engagement portion, wherein the engagement portion are teeth at both side edges of the lower plate portion of the vertical plate portion. The closest prior art of record, Sato et al., teaches side edge of the vertical plate portions is bent to form the stopper, which stops in engagement with the upper edge of the nut insertion groove. Thus, the added portion corresponding to the position of the bolt insertion hole increases the resistance to the current flowing through the plate portion. In contrast, the terminal structure in independent claims 1 and 3 can prevent it from turning, deforming or coming off upward due to the torque produced in the bolting operation. Also, the recited terminal structure can deliver a larger


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current to an external terminal than the one disclosed in Sato reference because of reduction in contact resistance. The invention of independent claim 16 recites a terminal structure of a storage battery, wherein a lower plate portion of the vertical plate portion of the plate terminal is provided with an engagement portion, and the lower plate portion of the plate terminal is pressed into a fit hole provide in the cover face, wherein the plate terminal has the lower plate portion pressed into the fit hole while being irradiated with ultrasonic waves simultaneously with application of a mechanical pressure to the plate terminal. The closest prior art of record, Sato et al., does not teach or suggest the lower plate portion is pressed into the hole while being irradiated with ultrasonic waves simultaneously with application of a mechanical pressure to the plate terminal.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dah-Wei D. Yuan whose telephone number is (571) 272-1295. The examiner can normally be reached on Monday-Friday (8:00-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (571) 272-1292. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and After Final communications.

Dah-Wei D. Yuan
February 3, 2004


Patrick Ryan
Supervisory Patent Examiner
Testing Center 1700